5 ABSTRACT

Prodrugs of $6-\beta$ -hydroxymethylpenicillanic acid sulfone having the structure

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wherein R is H or methyl, and solvates thereof, are disclosed. Also disclosed are pharmaceutical compositions comprising a prodrug of the present invention or a solvate thereof, an optional beta-lactam antibiotic and a pharmaceutically acceptable excipient.

Further disclosed is a method for increasing the therapeutic effectiveness of a beta-lactam antibiotic in a mammal by administering an effective amount of a beta-lactam antibiotic and an effectiveness-increasing amount of a prodrug of the present invention, or a solvate thereof.

Additionally disclosed is a method for treating a bacterial infection in a mammal by administering a therapeutically effective amount of a pharmaceutical composition of the present invention to a mammal in need thereof.